

REMARKS

Claims 1-20 are all the claims presently pending in the application. Claims 1-20 are amended to more particularly define the claimed invention. No new matter is added.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-20 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite.

With respect to the prior art, claims 1, 11, and 20 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Ooishi et al. (U.S. Patent Publication No. 2002/0062666 A1).

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ooishi. Claims 3 and 12 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ooishi in view of a machine translation of Yasumoto et al. (Japan Publication No. 2000-256034). Claims 4 and 13 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ooishi in view of Nakamura et al. (U.S. Patent Publication No. 2003/0070450 A1). Claims 5-10, 15, 17, and 19 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ooishi in view of a machine translation of Sayaka (Japan Publication No. 09-278477). Claim 14 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ooishi in view of Yasumoto, and further in view of Nakamura. Claims 16 and 18 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ooishi in view of Yasumoto, and further in view of Sayaka.

These rejections are respectfully traversed in the following discussion.

## I. THE CLAIMED INVENTION

An exemplary aspect of the claimed invention (e.g. as recited in claim 1) is directed to a method of manufacturing an optical fiber base material employing an outside vapor deposition process, in which a burner is relatively reciprocated against and along an initial material to deposit glass fine particles on the initial material to produce the optical fiber base material, the method including relatively reciprocating the burner and the initial material, and stopping the relative reciprocation in a predetermined period only at turning positions of the relative reciprocation.

Conventionally, in the use of outside vapor deposition, it is important that glass fine particles are deposited such that a resulting optical fiber base material after vitrification can have an even ratio of core to clad in a longitudinal direction all over the range of relative reciprocation. The conventional method of manufacturing an optical fiber base material, however, may decrease the yield rate because fluctuations are larger in the vicinity of the turning positions of the relative reciprocation than the other positions, causing an uneven ratio of core to clad. (Application at page 2, lines 13-18).

On the other hand, an exemplary aspect of the claimed invention may include a method of manufacturing an optical fiber base material employing an outside vapor deposition process, in which a burner is relatively reciprocated against and along an initial material to deposit glass fine particles on the initial material to produce the optical fiber base material, the method including stopping the relative reciprocation in a predetermined period only at turning positions of the relative reciprocation. (Application at page 4, lines 25-30). This exemplary feature may provide a method of manufacturing an optical fiber base material employing an outside vapor deposition process in which a ratio of core to clad of an optical fiber base material produced by vitrification can be even in the longitudinal direction (Application at page 3, lines 14-19).

## II. THE 35 U.S.C. § 112, SECOND PARAGRAPH REJECTIONS

### A. The Rejection of Claim 1

The Examiner alleges that the term “returning positions thereof” is unclear. While Applicant respectfully submits that one of ordinary skill in the art would clearly understand the term at issue, to expedite prosecution, claim 1 is amended to alleviate the Examiner’s concerns. Specifically, claim 1 now recites “turning positions of said relative reciprocation”. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

### B. The Antecedent Basis Rejections

The Examiner alleges that claims 2-10 and 12-19 have informalities with respect to antecedent basis. However, claims 2-10 and 12-19 are amended to alleviate the Examiner’s concerns. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw these rejections.

### C. The Rejection of Claims 11 and 20

The Examiner alleges that claims 11 and 20 are unclear. However, claims 11 and 20 are amended to alleviate the Examiner’s concerns. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

## III. THE PRIOR ART REJECTIONS

### A. The Ooishi Reference

Ooishi discloses a method of producing a glass particles deposit. (Ooishi at paragraph [0002]). The Examiner alleges that Ooishi anticipates the claimed invention. However,

Applicant respectfully submits that Ooishi fails to teach each and every element of the claimed invention.

Specifically, Ooishi clearly fails to teach or suggest a method of manufacturing an optical fiber base material employing an outside vapor deposition process, in which a burner is relatively reciprocated against and along an initial material to deposit glass fine particles on the initial material to produce the optical fiber base material, “said method comprising . . . stopping said relative reciprocation in a predetermined period only at turning positions of said relative reciprocation”, as recited, for example, in claim 1 (Application at page 4, lines 25-30). As previously mentioned, this exemplary feature may provide a method of manufacturing an optical fiber base material employing an outside vapor deposition process in which a ratio of core to clad of an optical fiber base material produced by vitrification can be even in the longitudinal direction (Application at page 3, lines 14-19).

The claimed invention clearly includes stopping the relative reciprocation in a predetermined period *only* at turning positions of the relative reciprocation. On the other hand, Figure 1 of Ooishi teaches that the reciprocal movement is stopped at multiple points (four stop points in Figure 1) in addition to the turn-back positions.

Further, Ooishi teaches away from the aforementioned exemplary feature, as paragraph [0042] of Ooishi teaches that “it is preferable to set the stop time in the middle of the traverse longer than the stop time at the turn-back position.” Accordingly, Ooishi fails to teach or suggest the exemplary feature of the claimed invention.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

### **B. The Yasumoto, Nakamura, and Sayaka References**

To make up for the aforementioned deficiencies with respect to Ooishi, the Examiner applies Yasumoto, Nakamura, and Sayaka. Yasumoto discloses a method for producing a preform for optical fiber (Yasumoto at Abstract). Nakamura discloses a method for producing a soot body (Nakamura at paragraph [0002]). Sayaka discloses a method for producing a glass preform (Sayaka at Abstract). The Examiner alleges that various combinations of Ooishi, Yasumoto, Nakamura, and Sayaka make the claimed invention obvious.

However, the Examiner alleges that Yasumoto, Nakamura, and Sayaka must be combined in some way with Ooishi, which, as previously stated, teaches away from the aforementioned exemplary feature, as paragraph [0042] of Ooishi teaches that “it is preferable to set the stop time in the middle of the traverse longer than the stop time at the turn-back position.” Thus, one of ordinary skill in the art would clearly not have combined Ooishi with any of Yasumoto, Nakamura, and Sayaka.

Further, even assuming (arguendo) that one of ordinary skill in the art would combine Ooishi, Yasumoto, Nakamura, and Sayaka, the resultant combinations still fail to teach or suggest the exemplary feature of the claimed invention. Specifically, Yasumoto, Nakamura, and Sayaka, either applied alone or (arguendo) in combination with Ooishi, fail to teach or suggest a method of manufacturing an optical fiber base material employing an outside vapor deposition process, in which a burner is relatively reciprocated against and along an initial material to deposit glass fine particles on the initial material to produce the optical fiber base material, “said method comprising . . . stopping said relative reciprocation in a predetermined period only at turning positions of said relative reciprocation”, as recited, for example, in claim 1 (Application at page 4, lines 25-30).

The Examiner alleges that Yasumoto at Figure 1, the Abstract, and paragraph [0004] teaches “relatively reciprocating said burner and said initial material . . . wherein during the relative reciprocation, combustion gas is decreased . . . .” (Office Action at page 6, lines 1-6). However, Yasumoto clearly fails to teach or suggest stopping the relative reciprocation in a predetermined period only at turning positions of the relative reciprocation. Indeed, Yasumoto fails to teach or suggest the exemplary feature of the claimed invention.

The Examiner alleges that Nakamura at the Abstract and paragraph [0026] teaches “relatively reciprocating said burner and said initial material . . . wherein during the relative reciprocation, the amount of material gas is increased . . . .” (Office Action at page 7, lines 2-3). However, Nakamura clearly fails to teach or suggest stopping the relative reciprocation in a predetermined period only at turning positions of the relative reciprocation. Indeed, Nakamura fails to teach or suggest the exemplary feature of the claimed invention.

In addition, in the Office Action at page 8, lines 21-22, the Examiner admits that “Sayaka does not expressly disclose that the burner is stopped for a stopping period”, and, thus, admits that Sayaka fails to teach or suggest the exemplary feature of the claimed invention. While the Examiner alleges that Sayaka teaches the slowing or a change in speed of the burner, Sayaka clearly fails to teach or suggest stopping the relative reciprocation in a predetermined period only at turning positions of the relative reciprocation.

Thus, the Examiner is unable to make up for the deficiencies of Ooishi by applying Yasumoto, Nakamura, or Sayaka, and, thus, fails to make a *prima facie* case of obviousness.

Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw these rejections.

**IV. FORMAL MATTERS AND CONCLUSION**

Applicant respectfully submits that claim 1 is amended to alleviate the Examiner's concerns and overcome the claim objection.

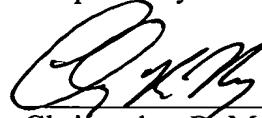
In view of the foregoing, Applicant submits that claims 1-20, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

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Respectfully Submitted,



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